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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,840	01/16/2004	Zhen He	200310950-1	6956
22879 7590 03/10/2008 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400				
EXAMINER				
BRINICH, STEPHEN M				
ART UNIT		PAPER NUMBER		
2625				
NOTIFICATION DATE		DELIVERY MODE		
03/10/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/758,840

Applicant(s)

HE ET AL.

Examiner

STEPHEN M. BRINICH

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☒ Claim(s) 32-34 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/55/02)
Paper No(s)/Mail Date 1/16/04, 6/26/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
10758840	1/16/04	HE ET AL.	200310950-1

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

STEPHEN M. BRINICH

ART UNIT	PAPER
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2625

20080227

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

/Stephen M Brinich/
Primary Examiner, Art Unit 2625

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 1 (and dependent claims 2-12), claim 1, lines 6-7 recites that the image data of the subsets is processed "independently" (i.e. each is processed without regard for the others); however, claim 1, lines 10-12 recites that the processing of one of the subsets comprises using a modulation of thresholds in common with of another of the subsets (i.e. the subset and the other subset are not processed independently).

Re claim 13 (and dependent claims 14-20), claim 13, line 4 recites that the image data of the subsets is processed by error diffusion "independently" (i.e. each is processed without regard for the others); however, claim 13, lines 5-7 recites that the error diffusion processing of one of the subsets comprises

processing using image data of another of the subsets (i.e. the subset and the other subset are not processed independently).

Re claim 19, the phrase "communications intermediate the processors" in claim 19, lines 2-3 is unclear.

Re claim 21 (and dependent claims 22-28), claim 21, lines 5-7 recites that the image data of the subsets is processed by error diffusion "independently" (i.e. each is processed without regard for the others); however, claim 21, lines 7-10 recites that the error diffusion processing of one of the subsets is implemented using image data of another of the subsets (i.e. the subset and the other subset are not processed independently).

Re claim 29 (and dependent claim 30), claim 29, lines 5-7 recites that the image data of the subsets is processed "independently" (i.e. each is processed without regard for the others); however, claim 29, lines 10-14 recites that the processing of one of the subsets comprises using a modulation of thresholds in common with of another of the subsets (i.e. the subset and the other subset are not processed independently).

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United

States and was published under Article 21(2) of such treaty in the English language.

3. Claims 13, 18-21, & 31, insofar as they are understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Pritchard (US 2003/0137698).

Re claims 13, 18, & 21, insofar as they are understood, Pritchard discloses (paragraphs 0031-0032 & 0037; Figures 5 & 7) an image data processing method in which a plurality of pixel subsets (regions) are defined and processed parallel by respective processors. This process uses error-diffusion halftoning, and diffuses error data from one region to another (thus, the processing of one region comprises processing using image data of another region). The subsets are portions of the full image (e.g. Figure 5 shows them as vertical stripes of the image) which combine to form the full image.

Re claim 19, insofar as it is understood, the above described diffusing of error data from one region to another inherently communicates information from the processor that processes one region to the processor that processes the other region.

Re claim 20, insofar as it is understood, the above described processors operate on different input data (each from a respective region, with some use of data from another region as described above), and thus are not "synchronized" at least insofar as they do not simultaneously operate on the same data.

Re claim 31, insofar as it is understood, Pritchard discloses (paragraph 0037) the use of a memory to provide data to the processor (which memory must therefore inherently be a "processor-usable media) configured to cause the processor to carry out the above described processing

Allowable Subject Matter

4. Claims 1-12 & 29-30, insofar as they are understood, would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

5. Claims 14-17 & 22-28, insofar as they are understood, would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and

to include all of the limitations of the base claim and any intervening claims.

6. Claims 32-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

Re claims 1 & 29 (and dependent claims 2-12 & 30), insofar as they are understood, the art of record does not teach or suggest the recited arrangement of modulating the thresholds of pixels in an overlapping region of pixels adjacent to a boundary between pixel subsets in conjunction with the recited independent processing arrangement in which pixel subsets are processed using a common modulation pattern.

Re claim 14, 22, & 32 (and dependent claims 15-17, 23-27, & 33-34), insofar as they are understood, the art of record does not teach or suggest the recited arrangement of processing pixels using image data in an overlapping region of pixels adjacent to a boundary between pixel subsets in conjunction with the recited independent processing arrangement in which pixel subsets are processed using pixel data from other subsets.

Re claim 28, insofar as it is understood, the art of record does not teach or suggest the recited arrangement of discarding processed image data of one image subset in conjunction with the recited independent processing arrangement in which pixel subsets are processed using pixel data from other subsets.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Silverbrook et al discloses an example of overlapping-region halftone printing.

9. Any inquiry concerning the contents of this communication or earlier communications from the examiner should be directed to Stephen M. Brinich at 571-272-7430.

Any inquiry relating to the status of this application, entry of papers into this application, or other any inquiries of a general nature concerning application processing should be

Art Unit: 2625

directed to the Tech Center 2600 Customer Service center at 571-272-2600 or to the USPTO Contact Center at 800-786-9199 or 571-272-1000.

The examiner can normally be reached on weekdays 8:00-5:30, alternate Fridays off.

The examiner's unit designation has been changed from "Art Unit 2624" to "Technology Division 2625" (as of March 20, 2006).

If attempts to contact the examiner and the Customer Service Center are unsuccessful, supervisor David Moore can be contacted at 571-272-7437.

Faxes pertaining to this application should be directed to the Tech Center 2600 official fax number, which is 571-273-8300.

Hand-carried correspondence may be delivered to the Customer Service Window, located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

/Stephen M Brinich/

Examiner, Art Unit 2625